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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/764,242

01/23/2004

Lee Chow

UCF-293DIV

8035

23717

7590

08/01/2005

LAW OFFICES OF BRIAN S STEINBERGER  
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EXAMINER

EASTHOM, KARL D

ART UNIT

PAPER NUMBER

2832

DATE MAILED: 08/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

<b>Office Action Summary</b>	<b>Application No.</b> 10/764,242	<b>Applicant(s)</b> CHOW ET AL.	
	<b>Examiner</b> Karl D. Easthom	<b>Art Unit</b> 2832	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2005.  
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 7-11 and 15-22 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☒ Claim(s) 17-22 is/are allowed.  
 6) ☒ Claim(s) 7-11 and 15 is/are rejected.  
 7) ☒ Claim(s) 16 is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☐ All b) ☐ Some \* c) ☐ None of:  
 1. ☐ Certified copies of the priority documents have been received.  
 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 7-11 are rejected under 35 U.S.C. 102(e) as anticipated by Suzuki et al. or, in the alternative, claims 7-11 and 15 are under 35 U.S.C. 103(a) as obvious over Suzuki et al. in view of Wickramasinghe et al. '235 and Carter. Suzuki discloses the claimed invention at Fig. 11E, with strips of different material 53,58 on an insulator

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substrate 55, where the nano-strips of conductors that include the claimed metals Pt, W and Ga (for claim 10) are disclosed at col. 5, lines 30-40, output electrodes 54. The overlapping portion is a point where 53 and 58 overlap at a point. The device has a thickness of 50nm for strip 58, see col. 11, lines 40-60, or the part 41 is 700nm, col. 1, lines 30-35, so that the device is a nano-strip sensor. For claim 8, substrate 43 is glass, col. 11, lines 10-15. For claim 9, Al is disclosed at col. 4, lines 43-50 as a pad or output electrode material. For claim 11, trimmed is a process step that is a cutting of the metal, and since the metal is cut in a process step by etching for example, it is deemed to meet trimming. Or as a 103 alternative, Wickramasinghe ' 235 et al. discloses at col. 3, lines 40-60, employing small nanoscale heaters and thermocouples, see also cols. 1-2, col. 5, lines 35-65, in order to detect temperatures of small regions, similar to the motivation employed by Suzuki et al. col. 9-10, lines 60-8 to measure temperatures in small regions, so that such a combination would have been obvious. Further as to the 103 alternative, if the group of metals is too large to anticipate the claim, Carter discloses W/Pt is a good thermocouple pair for measuring high temperatures at col. 2, lines 5-10, so that such a combination would have been obvious. For claim 15, only the 103 rejection applies, and as noted above, the strip thickness for film 58 is at 50nm at col. 11, lines 40-65, so that making each strip at such a thickness would have been obvious given the desire noted above to employ small sensors.

4. Claim 16 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 17-22 are allowed. Primarily, the

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claimed overlap of approximately 50 x 50 nm<sup>2</sup> is not disclosed or suggested. Wickramasinghe et al. discloses thermocouples on the order of 20x20x20nm at col. 3, lines 45-60, but that appears to be the total size of the overlap so that it is not clear how big the overlap is. The examiner is cognizant of MPEP 2173.05(b) which states that the disclosure of a standard of degree like approximately is of greater criticality when there is close prior art and the improvement rests entirely upon size or weight of an element. In this light, the examiner finds that the term approximately 50nm<sup>2</sup> is given meaning since the device to make it has a resolution of about 7nm as disclosed at page 4, lines 1-11 of the specification so that approximately 50 nm is deemed to fall in the range of 43nm-57nm or 42nm-58nm at the outside since about 7nm resolution could mean 8-10nm resolution in the context as understood.

5. The arguments concerning claim 7 recently filed has been considered but is persuasive only as to the removed rejections. Contrary to applicant's argument, Suzuki discloses a point overlap, and these are further well known in the art of record, see Fig. 4 of Rimai et al. , for example.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl D Easthom whose telephone number is 703 308-3306. The examiner can normally be reached on M-Th, 5:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on 703 308-7619. The fax phone numbers for the organization where this application or proceeding is assigned are 703 308-7722 for regular communications and 703 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-0956.



Karl D Easthom  
Primary Examiner  
Art Unit 2832

KDE  
July 27, 2005